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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,577	03/31/2004	Andrew D. Wilson	MICR0482	6896
27792	7590	10/19/2006	EXAMINER	
RONALD M. ANDERSON MICROSOFT CORPORATION 600 108TH AVENUE N.E., SUITE 507 BELLEVUE, WA 98004			HAUPT, KRISTY A	
			ART UNIT	PAPER NUMBER
			2876	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/814,577	WILSON, ANDREW D.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kristy A. Haupt	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,9-14 and 21-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-27 is/are allowed.
- 6) ☒ Claim(s) 1,2,9,10 and 21 is/are rejected.
- 7) ☒ Claim(s) 3 and 11-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/04</u> .                                                    | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This office action is in response to the Election of Species received 02 August 2006. Claims 1-3, 9-14 and 21-27 are elected and are pending in Application 10/814,577.

#### ***Claim Objections***

1. Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 21 is a memory medium while claim 9 is a method claim. Claim 21 does not contain any additional method steps from claim 9 and therefore does not further limit its parent claim.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over He et al. US 6,340,119 B2 in view of Department of Defense Logistics Automatic Identification Technology

<http://www.dodait.com/conf/data1199/printquality/print0111r6.doc>, 15 February 2000.

He teaches:

With respect to claim 1, a two-dimensional identifier applied to an object for encoding a value so that the value is determinable when the two-dimensional identifier is placed adjacent to a surface sensing system, the two-dimensional identifier comprising:

- A cue component comprising a contiguous area of detectable material to which the surface sensing system is responsive and which is approximated as an ellipse when detected by said surface sensing system, said ellipse having axes that indicate an orientation of the two-dimensional identifier relative to a coordinate system of the surface sensing system (Column 3, Lines 45-60)
- A code portion disposed in a predefined location relative to the cue component, said code portion encoding the value with at least one binary element that is detectable by the surface sensing system (Column 4, Lines 17-30)

With respect to claims 9 and 21, a method for determining a value from a two-dimensional identifier applied to an object when the object is placed adjacent to a surface of a surface sensing system, comprising the steps of:

- Detecting a cue component of the two-dimensional identifier, the cue component comprising a contiguous area that is detectable by the surface sensing system (Column 3, Lines 45-60) Approximating the cue

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component as an ellipse having a major axis and a minor axis, to determine a position and orientation of the cue component relative to the surface sensing system (Column 10, Lines 16-35)

- Locating a beginning of a code portion of the two-dimensional identifier relative to the position and orientation of the cue component, the value being encoded in the code portion by a plurality of binary elements, each of a predefined area (Column 11, Lines 51-60)
- Detecting the plurality of binary elements at predefined locations relative to one of the beginning of the code portion and to each other, with the surface sensing system (Column 11, Lines 51-60 and Column 12, Lines 7-20)
- Decoding the value that is encoded as a function of the plurality of binary elements that are detected (Column 11, Lines 60-61 and Column 12, Lines 61-65)
- A memory medium having machine readable instructions for carrying out the above steps (Figure 1, #12 and Column 5, Lines 54-55)

He fails to explicitly teach:

With respect to claim 1:

- A border region that encompasses the cue component and the code portion, the border region comprising a non-detectable material that is not

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sensed as part of the two-dimensional identifier by the surface sensing system and which functions as an interference mask

With respect to claim 9:

- A cue component that is encompassed by a border region that is not sensed by the surface sensing system as being part of the two-dimensional identifier and which functions as an interference mask around the cue component to minimize noise
- The code portion also being encompassed by the border region, which also functions as an interference mask around the code portion to minimize noise

However, the Department of Defense teaches:

With respect to claim 1:

- A border region that encompasses the cue component and the code portion, the border region comprising a non-detectable material that is not sensed as part of the two-dimensional identifier by the surface sensing system and which functions as an interference mask (Page 14, Section 3.3.3.6 teaches MaxiCode requires a quiet zone of 0.04 inches on all four sides of the symbol)

With respect to claim 9:

- A cue component that is encompassed by a border region that is not sensed by the surface sensing system as being part of the two-dimensional identifier and which functions as an interference mask around the cue component to minimize noise (Page 14, Section 3.3.3.6 teaches MaxiCode requires a quiet zone of 0.04 inches on all four sides of the symbol)
- The code portion also being encompassed by the border region, which also functions as an interference mask around the code portion to minimize noise (Page 14, Section 3.3.3.6 teaches MaxiCode requires a quiet zone of 0.04 inches on all four sides of the symbol)

Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of He to use a quiet zone around the cue and code portions, as taught by the Department of Defense, as they need clear areas free from noise surrounding them to ensure proper scanning.

3. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over He et al. US 6,340,119 B2 in view of Department of Defense Logistics Automatic Identification Technology <http://www.dodait.com/conf/data1199/printquality/print0111r6.doc>, 15 February 2000, as applied to claim 1 above, and further in view of Mine US 2002/0006786 A1.

He additionally teaches:

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With respect to claim 10 and incorporating all limitations of claim 9:

- Detect the orientation of the two-dimensional identifier and to decode the value encoded by the plurality of binary elements system (Column 11, Lines 51-60 and Column 12, Lines 61-65)

He as modified by Department of Defense Logistics Automatic Identification Technology fails to teach:

With respect to claim 2:

- Wherein the detectable material comprises a reflective material that reflect infrared light to which the surface system responds

With respect to claim 10:

- Illuminating the two-dimensional identifier with infrared light
- Detecting infrared light reflected from the cue component and the code portion of the two-dimensional identifier, to detect the orientation of the two-dimensional identifier and to decode the value encoded by the plurality of binary elements

However, Mine teaches:

With respect to claim 2 and incorporating all limitations of claim 1:

- Wherein the detectable material comprises a reflective material that reflect infrared light to which the surface system responds (Page 1, Paragraph



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0011 teaches a code read by an infrared reader while Page 3, Paragraph 0029 teaches the code being read could be a two-dimensional code such as MaxiCode)

With respect to claim 10 and incorporating all limitations of claim 9:

- Illuminating the two-dimensional identifier with infrared light (Page 1, Paragraph 0011)
- Detecting infrared light reflected from the cue component and the code portion of the two-dimensional identifier (Page 1, Paragraph 0011 teaches a code that can be read by an infrared light while Page 3, Paragraph 0029 teaches the code being read could be a two-dimensional code such as MaxiCode)

Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of He as modified by Department of Defense, to use a code comprising a material that reflects infrared light, as taught by Mine, as it is a functional equivalent and a type of code that is known and currently being used in the art.

***Allowable Subject Matter***

4. Claims 3 and 11-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 22-27 are allowed.

6. The following is an examiner's statement of reasons for allowance:

With respect to claim 3 and all its dependencies:

- The radial area of the cue component comprising a sub-area of non-detectable material that is located at a first predefined radius from the center of the radial area wherein the sub-area represents a start bit to indicate a start location from which the code should be read

With respect to claim 11 and all its dependencies:

- Producing a normalized image from the reflection of the IR light to compensate for a non-uniformity and using this image to detect the binary elements based on a second light intensity threshold and producing a binarized image from the normalized image based on a predefined first light intensity threshold and using this image to determine the cue component

With respect to claim 12 and all its dependencies:

- Determining an object identifier that is associated with the value of the two-dimensional identifier

With respect to claim 13 and all its dependencies:

- Detecting that a sub-area of the radial area that makes up the cue component is missing at a first predefined radius from a center of the radial area wherein the sub-area represents a start bit that determines where the beginning of the code portion is to be located and detecting the binary elements along an arc at a second predefined radius wherein the beginning of the code portion starts wherein the arc is concentric relative to the cue

With respect to claim 14 and all its dependencies:

- Determining that the cue component comprises a square with dimensions substantially equal to predefined dimensions of a die and determining the orientation of the cue by rotating a square template until it aligns with the cue wherein the binary elements are at a predefined location within the cue corresponding to a three-by-three square grid of possible spots of the die aligned with the orientation of the cue

With respect to claim 22 and all its dependencies:

- An interactive display surface with an interactive side adjacent to where an object with a two-dimensional identifier can be placed and having an opposite side wherein a light sensor that receives and sensed IR light that is reflected back from a patterned object through the interactive display surface forms an image that includes the two-dimensional identifier applied to the object

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The prior art of record fails to provide sufficient teaching or motivation to one of ordinary skill in the art to provide the features of these claims in the combinations as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristy A. Haupt whose telephone number is (571) 272-8545. The examiner can normally be reached on M-F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

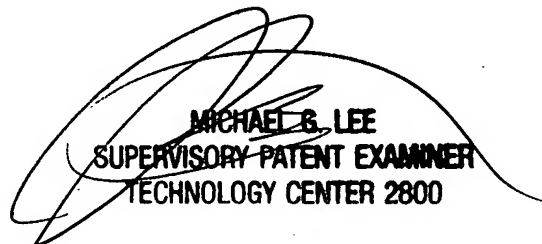
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10/13/06

KAH

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